UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/638,373	08/15/2000	Yin Pan	120-296	1548

34845 7590 04/30/2007
McGUINNESS & MANARAS LLP
125 NAGOG PARK
ACTON, MA 01720

EXAMINER	
SEFCHECK, GREGORY B	
ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/638,373
Filing Date: August 15, 2000
Appellant(s): PAN ET AL.

David A. Dagg
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/17/2007 appealing from the Office action mailed 8/3/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on 9/12/2006 has not been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,687,167	BERTIN ET AL	11-1997
6,771,661	CHAWLA ET AL	8-2004
6,459,682	ELLESSON ET AL	10-2002
6,785,728	SCHNEIDER ET AL	8-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6, 9, 11, 12, 15-20, 23, 25, 26, 29-34, 37, 39, 40, and 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin et al. (US005687167A), hereafter Bertin, in view of Chawla et al. (US006771661B1), hereafter Chawla.

- In regards to Claims 1, 2, 11, 15-16, 25, 29-30, 39, and 43,

Bertin discloses a method of allocating resources on a high-speed packet switching network (Internet). As illustrated in Fig. 2, Bertin shows the method implemented throughout the network utilizing computer software (claim 15 – computer program) and computer hardware (claim 43 - apparatus) comprising a memory and processor for storing and executing the resource allocation instructions (Col. 4, lines 45-58; claim 29 - apparatus comprising memory and processor for storing and executing instructions).

Referring to Fig. 1, Bertin shows a user specifying a connection request including the destination address for a reservation of network resources, such as bandwidth (Col. 12, lines 64-66; claims 1,15,29,43 – receiving a request for reservation of network resources including destination address; claims 11,25,39 – resources comprise bandwidth of network devices).

Bertin shows that a connection is setup/activated immediately upon receiving non-zero bandwidth replies from each node/link along the intended route (Col. 13, lines 48-55). Furthermore, Bertin shows that control messages are exchanged between routing points indicating when new links are activated (Col. 6, lines 5-23; claim 1,15,29,43 – receiving data indicating an activation time for resources).

Bandwidth resources on the transit nodes (network devices) are then allocated on a path to the end node (destination address) to accommodate the reservation if it is determined that the network devices have sufficient resources to accommodate the

reservation (Fig. 1, steps 102-104; Col. 13, lines 1-12; claims 1,15,29,43 – allocating resources on network devices to accommodate the reservation if sufficient resources are available; claims 2,16,30 – determining if network devices on path to destination have sufficient resources to accommodate the reservation).

Referring to Fig. 1, Bertin further shows connection level control information (filter) applied (installed) at the transit and end nodes (devices) of the network, specifiying the bandwidth to be reserved (action) for the destination address of the connection request (matching criteria; IP address). This information allows the bandwidth of the network device to be reserved and the resource allocation policy of the connection to be enforced for packets transmitted through these nodes along the path to the destination (Col. 13, lines 1-17; Fig. 1, steps 103-105; claims 1,15,29,43 – communicating over the network with at least one policy enforcement point on the path and at an edge of the network; claim 1,15,29,43 - allocating comprises installing filters on the network devices to allocate resources; claim 1,15,29,43 – filters having matching criteria including IP address which allows policy enforcement point to identify and perform action on a packet).

Bertin further discloses resource allocation comprising communicating with the transit nodes and end nodes (network devices) of the network (Fig. 1, steps 109-111; Col. 13, lines 5-15; claim 1,15,29,43 - allocating comprises communicating with the network devices).

Bertin further shows applying/installing the control information/filters at the time the connection is set up/activated based on the traffic characteristics (Col. 2, lines 22-30; claim 1,15,29,43 - installing filters at the time of resource activation).

Bertin does not explicitly disclose a future activation time.

Chawla discloses an apparatus and method for providing event-based data communications device configuration over the Internet. Chawla shows that resource allocations can be made by bandwidth reservations provided to a communications device which can specify a session of data communication and future bandwidth modification information, such as a time or event, such that resources are allocated to the communications device at a future activation time (Abstract; claim 1,15,29,43 - receiving data that indicates an Internet Protocol (IP) traffic filter to be installed at a future activation time for activating requested network resources).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method, apparatus and computer program of Bertin by enabling resource allocation to devices in a network at a future activation time, as shown by Chawla. This would enable resource allocations for network devices to be automatically and dynamically modified without a need to break active data communications sessions (Chawla, Abstract).

- In regards to Claim 3, 17, and 31,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses constructing and storing a topology database (topology map) at nodes of the network. Determining and allocating of network resources is performed by referencing the topology database (Col. 8, lines 50-51; Col. 13, lines 1-9; claim 3,17,31 - constructing and storing a topology map; referencing the map when determining and allocating network resources).

- In regards to Claims 4, 18, and 32,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin shows the topology database is updated (constructed) periodically to account for changes that have occurred in the network topology (Fig. 1, step 105; Col. 13, lines 13-17; Col. 15, lines 39-40; claim 4,18,32 - constructing topology map periodically to account for changes in the topology of the network).

- In regards to Claims 5, 19, and 33,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses determining if a reservation is permitted based on the Bandwidth Reservation Replies (identity) from the transit nodes and end node

(transferor). Allocation of resources is then performed if it is determined that the reservation is permitted (Fig. 1, step 104; Col. 13, lines 10-12; claim 5,19,33 - determine if reservation is permitted based on identity of transferor; allocate resources if reservation is permitted).

- In regards to Claims 6, 20, and 34,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows that the allocating of resources is not performed if it is determined that the reservation is not permitted (Col. 13, lines 10-12, 60-62; claim 6,20,34 - allocating not performed if it is determined that the reservation is not permitted).

- In regards to Claims 9, 23, and 37,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further shows allocating resources for different priority groups (classes) of traffic (Abstract; Col. 3, lines 23-25; Col. 15, lines 5-7; claim 9,23,37 - allocating resources for different classes of service on the network).

- In regards to Claims 12, 26, and 40,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin further discloses allocating bandwidth based on determining if a link (destination address) has insufficient bandwidth available (predetermined amount of bandwidth; Fig. 1, steps 103-104; Col. 3, lines 57-58; claim 12,26,40 - determining if destination address has greater than a predetermined amount of bandwidth; allocating based on determining)

- In regards to Claims 44-46,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin discloses that each established connection is assigned a priority such that newly requested connections can preempt (buffer and/or drop) packets transmitted over established connections if the new connection/packets are of a higher priority. Each packet is routed according to the information in its header, including the relative priority connection information for communicating the packet to its destination (Col. 1, lines 55-66; Col. 5-6, lines 65-33; Col. 9-10, lines 50-35; Col. 12, lines 21-25; claim 44 – action comprises marking a packet header to assign predetermined priority to the packet; claim 45 – action comprises shaping the packet; claim 46 – action comprises dropping the packet).

3. Claims 10, 14, 24, 28, 38, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin in view of Chawla as applied to claims 9, 11-13, 15-23, 25-27, 29-37, 39-41, and 43 above, and further in view of Ellesson et al. (US006459682B1), hereafter Ellesson.

- In regards to Claims 10, 24, and 38,

Bertin in view of Chawla discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above. Bertin further discloses using information in the packet header to be transmitted over the network.

Bertin does not expressly show the data class of service defined in the packets.

Ellesson discloses a method, apparatus and computer program implementation of controlling packet traffic (resource allocation) in an IP network. Ellesson discloses encoding the traffic class into the headers of the data packets to be transmitted to determine their network priority (Abstract; claim 10,24,38 - classes of service are defined in data packets to be transmitted over the network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the allocation method, apparatus and program of Bertin by explicitly defining the service class of data traffic within the data packet to be transmitted over the network, as taught by Ellesson. This modification would provide class of service information for incoming data to each transit node without requiring the additional

bandwidth of a separate information/signaling channel between each node along the path to the destination address.

- In regards to Claims 14, 28, and 42,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above. Bertin further shows that the headers of the incoming data packets include Control Fields that includes an interpretation of the protocol used to communicate the routing information to each of the transit nodes along the path to the destination address.

Bertin does not expressly show this communication using the COPS/RSVP protocol.

Ellesson discloses a method, apparatus and computer program implementation of controlling packet traffic in an IP network. Ellesson shows an RSVP protocol-based reservation system for communicating bandwidth allocations to network devices (Col. 3, lines 3-7; claim 14,28,42 - communicating takes place using COPS/RSVP protocol).

It would have been an obvious design choice to implement the allocation method, apparatus and program of Bertin by communicating with the network devices using the COPS/RSVP protocol, as taught by Ellesson, to effectively communicate the resources necessary for accommodating a reservation to each transit node and the end node along the path to the destination address.

4. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertin in view of Chawla as applied to claim 1 above, and further in view of Schneider et al. (US006785728B1), hereafter Schneider.

- In regards to Claim 47,

Bertin discloses a method, apparatus and computer program for allocating network resources that covers all limitations of the parent claims above.

Bertin does not explicitly show modifying the matching criteria of the filter by replacing the address with a range of addresses.

Schneider discloses a scalable access filter to control access by users in a network (Abstract). Schneider shows a single access filter may provide access to multiple users requesting access to a resource by allowing access to all devices within a workgroup, defined by a range of IP addresses, to which the multiple users belong (Figs. 2, 7-9, and 13; Col. 5, lines 15-60; Col. 23, lines 33-52; Col. 29, lines 12-53; claim 47 - modifying the matching criteria of the filter by replacing the address with a range of addresses).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and apparatus of Bertin by enabling network resource access to multiple users having addresses within a range of addresses through a single filter, as shown by Schneider. This modification would reduce the amount of filters required in the network and would allow aggregating user access control into manageable workgroups, specified by an address range, in order to simplify the

management, authentication and protection of the network when accessible to a large number of users.

(10) Response to Argument

Appellant's Arguments on pages 7-20 of the Brief filed 1/17/2007 have been fully considered but they are not persuasive.

- In response to Appellant's Argument on pages 7-14 that the combination of Bertin and Chawla does not disclose or suggest the claimed limitation, "installing, at the future reservation time, at least one IP traffic filter wherein the filter includes a matching criteria and an action, the matching criteria including at least one IP address allowing the policy enforcement point to identify at least one packet and to perform the action", the Examiner respectfully disagrees. Furthermore, Appellant contends that nothing in the combination of Bertin and Chawla discloses installing any kind of IP filter at a future reservation time, because the explicit term "filter" is not used by either Bertin or Chawla. Appellant also cites the Examiner's Response to Arguments of the Final Office Action filed 8/3/2006, alleging that the Examiner has used Applicant's Specification as a guide for interpreting the teachings of the prior art such that the actual teaching of Bertin is modified to read on the present independent claims.

- As shown in the rejection of independent claims 1, 15, 29, and 43 from the Final Office Action above, the combination of Bertin and Chawla properly rejects each of the pending claim limitations, including that which has been contested by Appellant. Contrary to Appellant's assertion that Bertin discloses reserving bandwidth in some unspecified way rather than by installing filters, reference to Fig. 1 and Col. 12-13, lines 64-17 of Bertin discloses connection level control information (filter) applied (installed) at the transit and end nodes (devices) of the network (high-speed packet switching network; Internet) specifiying the bandwidth to be reserved (action) for packets received along a path to a destination address (matching criteria; IP address). This information allows the bandwidth of the network device to be reserved and the resource allocation policy of the connection to be enforced for packets transmitted through these transit nodes along the path to the destination. The Examiner has specifically shown how these elements of Bertin have been used to meet the limitations (filter, installation, etc.) in the above rejections of Appellant's claims.
- Contrary to Appellant's contention, the Examiner has only utilized Appellant's Specification to provide definition to the Appellant's own claim language of "filters" that are "installed" at "policy enforcement points" along a path toward the destination. Pages 2-3 (for example) of the Specification define the claimed "filters" as being installed for the purposes of allocating resources along a network path if the conditions of the resource reservation

request can be met at the enforcement points along that path. Therefore, Bertin's connection level information that is communicated to the transit nodes (policy enforcement points) along the path to the end node after determining they can accommodate such a reservation meets the claimed "filter installations" when considered in light of how "filter installations" is defined in Appellant's Specification. This does not constitute an improper use of the Specification for characterizing the prior art, as contended by Appellant. The Examiner has only used the Specification for interpreting Appellant's claims. The meaning given to the disclosure of the prior art has been taken from the prior art references themselves, not Appellant's Specification.

- In response to Appellant's arguments on pg. 11 of the Brief, that Chawla does not disclose because Chawla describes storing bandwidth allocation information in a table, rather than installing filters as claimed, the Examiner respectfully disagrees.
- In response to applicant's arguments on pg. 11 of the Brief against the references individually, specifically Chawla, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The above rejections show that Bertin meets all of the claim limitations *except* the concept of a specified future activation time for

allocated resources. As also shown in the rejection, Chawla is relied upon to provide disclosure of allocating bandwidth by specifying a future time that a bandwidth allocation is to occur. Thus, by combining this "future activation of bandwidth allocation" disclosure from Chawla with the filter installation of Bertin, the pending claims are properly rejected.

- Appellant does not provide any additional argument on pages 14-20 of the Appeal Brief with respect to further limitations from the dependent claims. Rather, Appellant returns to the argument that Bertin and Chawla do not disclose or suggest the claimed limitation, "installing, at the future reservation time, at least one IP traffic filter wherein the filter includes a matching criteria and an action, the matching criteria including at least one IP address allowing the policy enforcement point to identify at least one packet and to perform the action", and that patentability of the dependent claims must follow as their rejections do not cure this alleged deficiency in Bertin and Chawla. However, as shown above, the Examiner has illustrated that Bertin and Chawla do properly meet this contested claim limitation. The Examiner has reviewed the further limitations of the dependent claims and believes the rejections of those claims to also be proper.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Greg Sefcheck GBS

04/20/2007

Conferees:

Seema Rao

Hassan Kizou HK

Seema S. Rao 4/24/07
SEEMA S. RAO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600